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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/988,060	11/16/2001	Toshiya Uemura	P 282474 F01-273-USdiv	7965

21254 7590 09/17/2003

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EXAMINER

WILLE, DOUGLAS A

ART UNIT	PAPER NUMBER
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2814

DATE MAILED: 09/17/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/988,060

Applicant(s)

UEMURA ET AL.

Examiner

Douglas A Wille

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-13 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. in view of Knaebel.
3. With respect to claims 1 and 13, Nakamura et al. shows a GaN LED (see Figure 7 and column 4, line 45 et seq.) with a protective film covering the entire surface except for the electrodes which improves the reliability of the device (column 10, line 42). Nakamura et al. do not show encapsulation of the LED but Knaebel shows an LED with an encapsulant (see cover Figure and column 4, line 65) where the encapsulant provides a uniformly illuminated area (see abstract). Knaebel also shows that the encapsulant receives both a cure and a post cure heat treatment at temperatures of 120 – 140 degree C (column 10, line 50). It would have been obvious to encapsulate the Nakamura et al. device as shown by Knaebel to improve the output of the device. Note that since the device processing of Knaebel is not performed in vacuum there will be some ambient relative humidity and the encapsulation is performed in an atmosphere having humidity. However, the limitation of heat-treating the device in an ambient atmosphere containing humidity is a processing limitation that does not carry weight in a claim drawn to a structure. Similar remarks apply to the processing inequality of claims 13.

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4. With respect to claim 2, the heat treatment is carried out at a temperature greater than 60 degrees C.

5. With respect to claim 7, it is obvious to assume that the processing is done at ambient atmospheric pressure.

6. With respect to claims 3 – 6, and 8 - 12, the limitation of heat-treating the device in an atmosphere containing humidity is a processing limitation that does not carry weight in a claim drawn to a structure.

#### ***Response to Arguments***

7. Applicant's arguments filed 11/18/02 have been fully considered but they are not persuasive.

8. Applicant states that there is no humidity at a temperature of 100 degrees C or greater which is incorrect. Note that water boils at 100 degrees C and the liquid becomes a vapor and if this vapor is in a sample of air it represents humidity. It should also be noted that Applicant claims (see claim 2) that there is relative humidity at 100 degrees.

9. Applicant states that with respect to claims 3 – 6, the absolute humidity in the prior art could be less than 10 Kpa but note that this is a processing limitation and the claims are drawn to a device.

#### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas A Wille whose telephone number is (703) 308-4949. The examiner can normally be reached on M-F (6:15-2:45).

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wael Fahmy can be reached on (703) 308-4918. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

A handwritten signature in black ink, appearing to read "Douglas A. Wille".

Douglas A. Wille  
Patent Examiner

September 11, 2003